WASTE MANAGEMENT

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April 6, 2015

Mr. Daniel Carlson
Senior Engineering Geologist
Central Valley Regional Water Quality Control Board
1686 E Street,
Fresno, CA 93706

RE: Comments/Recommendations for Tentative Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (MRP) for Liquid Waste Management, dated March 5, 2015

Dear Mr. Carlson,

Liquid Waste Management, Inc. has received and reviewed the subject tentative documents and appreciates Board staff's diligent efforts to push this important permit expansion action forward. This correspondence provides our comments on the tentative documents received March 5, 2015.

For ease of reference and review we have taken excerpts of the Boards tentative documents and included them in the comments below. The specific page, section, item references have been highlighted in yellow and our comments/recommendations to the specific page, section, item, are highlighted in green.

Our specific recommended text edits have been **bolded** within the green highlights.

Please feel free to give me a call if you would like to discuss any of the comments/recommendations listed below, or to set up a meeting or conference call to go over them.

Thank you in advance for your continuing assistance in this effort.

Respectfully,

Fred Paap
District Manager
Liquid Waste Management, Inc
McKittrick Waste Treatment Site

cc: Paul Willman - MWTS
Scott Sumner – MWTS
Mark Verwiel-MWTS
Brad Loewen- AME

Comments/Recommendations to the Central Valley RWQCB
Tentative Waste Discharge Requirements (WDRs) dated March 5, 2015

Regarding items 12 on Page 6 of the WDRs:

12. The Discharger proposes to discharge treated wood waste in the composite-lined units at the landfill. Title 22 defines "treated wood" to mean wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate (CCA), pentachlorophenol, creosote, acid copper chromate (ACC), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or chromated zinc chloride (CZC).

This item should be revised to discuss the fact that the MWTF currently discharges treated wood waste and will continue to do so.

Regarding items 25 and 26 on Page 6 of the WDRs:

25. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

26. Surface water drainage from the Facility is regulated under the *General Permit to Discharge Storm Water Associated with Industrial Activity* adopted by the State Water Resources Control Board in 1997. Groundwater and spring water within a 0.5 mile radius of the Facility are not suitable, or potentially suitable, for municipal or domestic supply.

It appears that the last sentence of 26 belongs at the end of 25 with the water quality control plan as it is referring to groundwater.

Regarding item 31 on Page 7 of the WDRs:

GROUNDWATER, UNSATURATED ZONE, AND SURFACE WATER MONITORING

31. The existing surface and groundwater monitoring network consists of two spring locations (SP-1 and SP-1A) and four monitoring wells (M-4, M-5, M-11, M-12R) as shown on Attachment B. Shallow zone groundwater occurs below the eastern and western areas and is monitored for the earliest detection of a release. The deep zone groundwater is not monitored for groundwater quality. Several piezometers are used to assess the groundwater gradient (MD-4, P-15, PD-15, PD-16, P-17, P-21, P-22, P-23, P-24, and P-25).

The last sentence of this item lists existing piezometers. Piezometer M-7 should also be listed. All but two of the piezometers will be decommissioned as part of the landfill expansion. Piezometers P-15 and M-7 will remain as part of the monitoring program and be used for depth-to-groundwater measurements and groundwater elevation calculations. The remaining piezometers (MD-4, PD-15, PD-16, P-17, P-21, P-22, P-23, P-24, and P-25) need to be decommissioned and should be removed from the WDRs.

Regarding item 35 on Page 8 of the WDRs:

GROUNDWATER DEGRADATION AND CORRECTIVE ACTION

35. The anthropogenic VOCs 1,1-Dichloroethane (1,1-DCA) and methyl tertbutyl ether (MTBE) were released to groundwater beneath the site. No other organic or inorganic constituents were identified as part of this release, which was attributed to former unlined surface impoundments. The Facility was placed into a corrective action program (CAP) in 2002, which consisted of monitored natural attenuation. The concentrations of 1,1-DCA and MTBE attenuated to background water quality conditions by 2006 and 2009, respectively.

This item discusses the fact that the facility was placed into corrective action in 2002 due to detections of 1,1-DCA and MTBE. The last sentence states these constituents have not been detected since 2006 and 2009, respectively.

The January 2015 Site-Specific Groundwater Monitoring Plan (SSGWMP) prepared by Amec Foster Wheeler is identified as the "approved" water quality monitoring plan in the first paragraph of Section A. Monitoring of the Monitoring and Reporting Program (MRP). The SSGWMP proposed the site end Corrective Action Monitoring and resume Detection Monitoring for the reasons specified in Section 3.0 of the SSGWMP. **Because the SSGWMP has been approved, item 35 should specify that the site is in Detection Monitoring and not Corrective Action Monitoring for internal consistency with the WDRs.**

Regarding item 36 on Page 8 of the WDRs:

36. In the most recent self-monitoring report (*Second Semiannual and Annual 2014 Groundwater Monitoring Report*), 1,1,2-trichloro-ethane (1,1,2-TCA) was reported at a concentration of 7.3 micrograms per liter (µg/L) in well M-5. The last detection of 1,1,2-TCA was in spring SP-1 in January 2001 and it has not previously been detected in well M-5. Additionally, 1,2-dichloroethane (1,2-DCA) was reported at a concentration of 7.3 µg/L in well M-5. 1,2-DCA was last detected in well M-5 in November 1999 and has not been detected in any other of the site monitoring wells. Confirmation sampling is scheduled.

This item discusses 1,1,2-TCA and 1,2-DCA both reported at values greater than the PQL in an October 21, 2014, groundwater sample from monitoring well M-5. A QC sample collected from well M-5 on February 9, 2015, did not identify those constituents in the sample. The second semiannual 2014 result seems to be a false positive. **We suggest item 36 be removed from the WDRs.**

Regarding item 42 on Page 9 of the WDRs:

42. The LCRS will drain to a sump where leachate is collected. A leak detection system (LDS) in the form a pan lysimeter will be constructed beneath the western expansion LCRS sump. The Discharger proposes a LDS consisting of the following, from top to bottom:

    a. 12-inch prepared subgrade foundation;

    b. a 60-mil HDPE geomembrane;

    c. a double-sided LCRS geocomposite (non-woven geotextile/HDPE geonet bonded on both sides);

    d. 18-inch minimum thick layer of granular material with a hydraulic conductivity of 1cm/s, in the floor area of the LDS to accommodate the LDS riser pipe;

    e. a reinforced geotextile carrier type GCL;

    f. 24-inch compacted clay liner with a hydraulic conductivity of $1x10^{-7}$ cm/s or less.

We recommend the above item be revised to reflect the current design, as described in Section 6.8.4 of the JTD, of the LDS are listed from bottom to top and should include a reinforced geotextile carrier type GCL between items a. and b.

Regarding item 47 on Page 10 of the WDRs:

47. The Discharger proposes an engineered alternative final cover consisting of, in ascending order, the following layers:

    a. Prepared foundation layer.
    b. 3-foot thick evapotranspirative (ET) soil layer.
    c. Vegetative layer

We recommend the above item be revised to clarify that the "vegetative layer" in the final cover is part of the three foot ET soil layer and not additional material.

Regarding item 58 on Page 12 of the WDRs:

58. On 10 December 2013, the Kern County certified the final environmental impact report for the Facility and adopted a Mitigation Monitoring and Reporting Plan for the expansion of the existing Facility into the 40-acre West Parcel.

We recommend the above item be revised to insert "Board of Supervisor's" after County.

Regarding Section A. PROBITIONS item 5 on Page 13 of the WDRs:

5. Discharge of municipal solid waste is prohibited.

MWTS currently disposes of the dry trash in the landfill so we recommend removal of item 5 or a revision to allow the continued disposal of dry trash similar to the language in the existing WDRs.

Regarding Section B. DISCHARGE SPECIFICATION item 2 on Page 14 of the WDRs:

2. Prior to the discharge of waste to a Class II WMU, all wells within 500 feet of the unit shall have sanitary seals or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Central Valley Water Board and to the State Department of Water Resources.

We recommend clarifying that all "unused water supply wells" be specified rather than just "all wells"

Regarding Section B. DISCHARGE SPECIFICATION item 4 on Page 14 of the WDRs:

4. The Discharger shall manage treated wood waste in accordance with California Health and Safety Code sections 25143.1.5 and 250150.7 and shall comply with all prohibitions listed in Title 22, section 67386.3.

Please correct the citation from 250150.7 to 25150.7.

Regarding item 1 of Section G. Monitoring Specifications on Page 17 of the WDRs:

G. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program (MRP) R5-2015-XXXX, and the Standard Monitoring Specifications listed in Section I of the SPRRs.

This item specifies compliance with the MRP and with Section I of the Standard Provisions and Reporting Requirements (SPRRs). **We suggest that this item also specify compliance with the most recently approved version of the SSGWMP.**

Regarding item 4 of Section G. Monitoring Specifications on Page 17 of the WDRs:

4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP R5-2015-XXXX.

A potential release from the MWTS is evaluated using trend analysis of anthropogenic and non-anthropogenic VOCs. Inorganic constituents are not reliable indicators of a release at the MWTS and therefore concentration limits are not calculated and inorganic data are not statistically evaluated. **This item should be updated to specify that inorganic COCs are not reliable indicators of a release at the MWTS and are not statistically analyzed.**
The remaining anthropogenic organic COCs, such as SVOCs, are not naturally occurring and have no history of detection. Their concentration limit could be their respective PQL.

Regarding item 6 and 7 of Section G. Monitoring Specifications on Page 18 of the WDRs:

6. For each monitoring event, the Discharger shall determine whether the waste management unit is in compliance with the Water Quality Protection Standard using procedures specified in MRP R5-2015-XXXX and the Standard Monitoring Specifications in Section I of the SPRRs.

7. The Discharger shall comply with all Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs.

Because portion of the WDRs, MRP, or the SSGWMP may conflict with the SPRRs, **we request the above paragraphs refer to "applicable portions of the Standard Monitoring Specifications..." and should also note compliance with the most recently approved version of the SSGWMP.**

Regarding Section H. Corrective Action Specifications on Page 18 and 19 of the WDRs:

Note: the actual Corrective Action Specifications Text on Page 18 & 19 not repeated.

As proposed in the SSGWMP, which is approved in the MRP, the site should be in Detection Monitoring. As specified in the SSGWMP and as identified in these tentative WDRs, the constituents identified in the corrective action attenuated to values less that the PQL at least 6 years ago.

The recent detections of anthropogenic VOCs in well M-5 were not duplicated in a subsequent sample. **The VOCs reported in well M-5 appear to be a false positive. The current language in Section H of the WDRs should be removed.**

Regarding item 1 of Section I. Provisions on Page 19 of the WDRs:

I. PROVISIONS

1. The Discharger shall comply with the SPRRs. The SPRRs contain important provisions and requirements with which the Discharger must comply. A violation of any of the SPRRs is a violation of these waste discharge requirements.

Because portions of the WDRs, MRP, or the most recently approved version of the SSGWMP may conflict with the SPRRs, **we suggest the first sentence of this item be revised to state: "The Discharger shall comply with applicable portions of the SPRRs."**

Regarding Task I.10.G. Corrective Action on Page 22 of the WDRs:

If the site is in Detection Monitoring as proposed in the SSGWMP, then **Task G is not needed and should be removed from the WDRs.**

Comments/Recommendations to the Central Valley RWQCB Tentative Monitoring and Reporting Program (MRP) Dated March 5, 2015

Regarding the last paragraph on Page 2 of the MRP:

Once per quarter, the Discharger shall measure the groundwater elevation in each well and any additional piezometers, determine groundwater flow direction, and estimate groundwater flow rates in the uppermost aquifer and in any zones of perched water and in any additional portions of the zone of saturation monitored. The results shall be reported semiannually, including the times of expected highest and lowest elevations of the water levels in the wells, pursuant to Title 27, section 20415(e)(15).

Since semiannual groundwater monitoring was approved more than 10 years ago for the site, water levels have been collected semiannually and reported in the monitoring reports. Figure 4 of the SSGWMP is a hydrograph of shallow groundwater elevations. The hydrographs include quarterly groundwater elevation data that were collected prior to 2003. The hydrographs show no significant change in upgradient versus downgradient position of the wells. The upgradient wells have remained the upgradient wells and the downgradient wells have remained the downgradient wells during the period of record since 1991. No groundwater production wells exist within 1 mile of the MWTS to cause seasonal fluctuations in groundwater flow. Monitoring water level semiannually is just as effective as measuring quarterly water levels for determining groundwater flow direction and gradient below the MWTS.

The requirement to measure water levels, determine groundwater flow direction, and estimate groundwater flow rate quarterly should be changed to semiannually.

Regarding Section 5. Corrective Action Monitoring on Page 6 of the MRP:

5. Corrective Action Monitoring

The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action in accordance with Title 27, section 20430 and this MRP. Groundwater monitoring wells and springs shall be monitored in accordance with the groundwater monitoring requirements in part A.1 of this MRP.

If the site is in Detection Monitoring as proposed in the SSGWMP, this section should be removed.

Regarding Section B. Reporting on Page 6 of the MRP:

B. REPORTING

The Discharger shall submit the following reports in accordance with the required schedule:

Reporting Schedule

Section	Report	End of Reporting Period	Due Date
B.1	Semiannual Monitoring Report	30 June, 31 December	**1 August, 1 February**
B.2	Annual Monitoring Report	31 December	**1 February**

The reporting schedule requires preparation and submittal of the monitoring reports and annual monitoring report 30 days following the end of the monitoring period. **We request an extension of the time to about 60 days or 1 September and 1 March for the monitoring reports and 1 March for the annual monitoring report. If changed, then the report due dates on Page 7 -Section 1. Semiannual Monitoring Report and page 9- Section 2. Annual Monitoring Report should also be changed to September 1 and March 1 respectively.**

Regarding item c) on Page 8 in Required Reports of the MRP:

c) The estimated quarterly groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report [Title 27, section 20415(e)(15)].

If changed to semiannual groundwater measurements, this should also state semiannual groundwater flow rate and direction.

Regarding item f) on Page 8 in Required Reports on the MRP:

f) An evaluation of the concentration of each monitoring parameter (or 5-year COC when five year COC sampling is conducted) as compared to the current concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit . Report any actions taken under Section J: Response to a Release for verified exceedances of a concentration limit for wells/constituents not already in corrective action monitoring.

Inorganic COCs are not reliable indicators of a release at the MWTS and are not statistically analyzed. Inorganic COC results are evaluated with regard to constancy with historical data. **We request the above statements be inserted into item f) after the first sentence for clarification.**

Regarding item d) on Page 9 of the MRP:

d) Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

We request this item be changed to prepare semiannual hydrographs.

Regarding item i) on Page 9 of the MRP:

i) Updated concentration limits for each monitoring parameter at each monitoring well based on the new data set.

Inorganic constituents are not reliable indicators of a release from the MWTS and statistically derived concentration limits are not calculated at the MWTS. **We request that this item be removed from the MRP.**

Regarding TABLE I- GROUNDWATER DETECTION MONITORING PROGRAM; TABLE II-UNSATURATED ZONE DETECTION MONITORING PROGRAM; TABLE III-LEACHATE MONITORING AND LCRS TESTING; TABLE IV- MONITORING PARAMETERS FOR DETECTION MONITORING and TABLE V- 5-YEAR COCs & APPROVED USEPA ANALYTICAL METHODS on Pages 14-25 of the MRP:

Table I lists the constituents tested as part of the Groundwater Detection Monitoring Program. Inorganic constituents and VOCs are listed under Monitoring Parameters in Table I. As identified in the current MRP and the SSGWMP, VOCs are the Monitoring Parameters for the MWTS. The listed inorganic constituents are the Supplemental Hydrochemical Parameters included in Table 3 of the SSGWMP. To prevent potential confusion between monitoring parameters and hydrochemical parameters, **we suggest in Table I VOCs be listed under Monitoring Parameters and the inorganic constituents be listed under Hydrochemical Parameters.**

We also suggest that the Monitoring Parameters and Hydrochemical Parameters in Tables II and III should also be listed separately.

Table IV lists the monitoring parameters for the MWTS. The Monitoring Parameters are VOCs tested by USEPA method 8260B. The list of VOCs in Table IV of this Tentative MRP is not consistent with the list of VOCs in Table II of the current MRP (R5-2003-0160) or in Table 2 of the recently approved SSGWMP. The MWTS is expanding but will continue to receive the same type of waste it has historically received. To remain consistent with historical monitoring at the MWTS, **we suggest the Monitoring Parameters listed in Table IV be replaced with the list of monitoring parameter in Table II of the current MRP (R5-2003-0160) or in Table 2 of the recently approved SSGWMP.**

Table V lists the constituents of concern (COCs) for the MWTS. Among lists of other constituents, Table V includes lists of VOCs (by USEPA Method 8260B) and SVOCs (by USEMP Method 8270C). The lists of VOCs and SVOCs included in Table V are not consistent with the lists of VOCs and SVOCs included in Table 1 (the COC table) of the approved SSGWMP. The MWTS is expanding but will continue to receive the same type of waste it has historically received. To remain consistent with historical monitoring at the MWTS, **we suggest the VOCs and SVOCs listed in Table V be replaced with the list of VOCs and SVOCs in Table 1 of the approved SSGWMP.**